

REMARKS

Reconsideration and allowance of this application are respectfully requested in view of the above amendment and the discussion below.

Applicants' invention concerns an extreme ultraviolet source (EUV) which operates on the left branch of the Paschen curve so that the ignition voltage increases with falling gas pressure and a fixed electrode geometry. Therefore the gas discharge cannot spread through the shortest route between the electrodes because the mean free path length of the charge carriers is longer than the electrode distance. As a result the gas discharge seeks a longer path since a sufficient number of ionizing pulses for maintaining the discharge are possible only with a sufficient discharge path. The claimed openings in each of Independent claims 1 and 7 specify the longer path in order to define the axis of symmetry. Therefore, only a single plasma channel is formed, which has the above-defined axis of symmetry having its lateral expansion defined by the claimed openings.

Claims 1-7 and 11 have been rejected under 35 USC 102 as anticipated by Silfvast U.S. Patent No. 6,031,241 as detailed at item 10 on pages of the Patent Office Action. Claims 8-10 have been indicated as containing allowable subject matter if combined with claim 1 and any intervening claims. Additionally claims 12-14 have also been indicated as containing allowable subject matter.

Applicants' submit that the claimed invention of independent claims 1, 7 and 8 provide subject matter not shown or disclosed by the Silfvast reference. The capillary discharge source of Silfvast requires an insulator in order to force and to ignite the plasma on the axis of symmetry. This capillary discharge source is operated with an operating point on the right branch of the Paschen curve. This is an obvious conclusion to one skilled in the art. As a result the gas discharge seeks the shortest path not shielded by the insulator. It is a characteristic of this type of discharge source that the insulator is subject to wear which diminishes its lifetime and thus affects its application for such a device. One skilled in the art confronted with providing a device with a reaiation-emittin plasma having a radiation intensity al large as possible would not find a teach or suggestion in the Silfvast reference because, in order to operate the EUV source on the left branch of the Paschen curve, working at low pressure is required. According to Figure 4 of Silfvast, this would require a reduction in the EUV radiation intensity.

Aside from the above discussed distinctions, applicants have modified independent claim 1 by incorporating the subject matter of Claim 6 with respect to the Auxiliary electrode behind the opening of one of the main electrodes. Although the rejection indicates that the electrode 512 of Silfvast shows this feature, Applicant's submit that the Wich 512 discussed at column 12 and shown in Fig. 5 of Silfvast in only one of the means to maintain the lithium vapor

pressure and is not an electrode and does not have the corresponding required function.

Additionally independent claim 7 corresponds to a combination of original claims 1 and 7 to include that the auxiliary electrode is between the main electrodes. There is no indication in the rejection where this feature is disclosed in Silfvast. The insulator 502 of Silvast is not an auxiliary electrode if that is what was intended.

Independent claim 8 contains the limitations of original claim 1 to take advantage of the indicated allowability of the subject matter of claim 8.

Claims 1, 4, 12 and 13 have been amended to eliminate the objections raised at Items 3-7 of the Patent Office Action. Additionally, enclosed herewith are drawing sheets addressing the objections to the drawings indicated at Items 1 and 2.

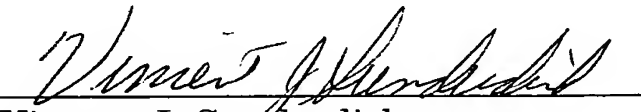
Therefore in view of the distinguishing features between the claimed invention and the reference of record and in view of the changes to the claims to correct informalities without adding any new matter or raising any new issues, Applicants respectfully request that this application be allowed and be passed to issue.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #029182.50787US).

Respectfully submitted,

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